

Extraction of lac red dye and its application on wool

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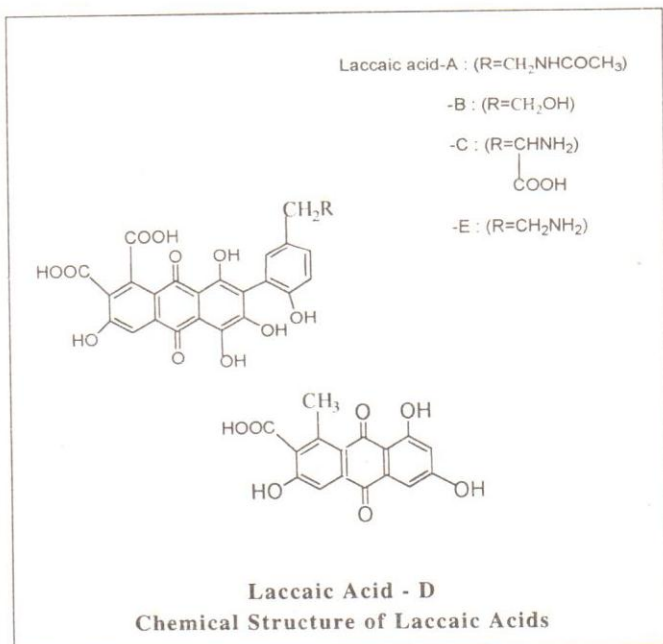
DUE to health hazards and environmental problems associated with the use of synthetic dyes, people have realized the utility of natural dyes and moved towards it with scientific background. Thus the interest in natural dye has been revived. Study was conducted to extract natural lac red dye from shellac wash. Extracted natural lac red dye was used for dyeing on mordanted wool with alum, chrome, iron, copper and tin. In all 10 different shades were developed. Fastness properties (light, wash & crocking) were also studied on these samples.

Dye materials

Agricultural produce lac red dye (Lacifer lacca / Coccus lacca / Kerria lacca) have been used as dye raw material.¹⁻⁹

Lac dye is acidic in nature and has been fractionated by column chromatography into five fractions, designated as laccaic acids, A, B, C, D and E of which A and B are the major ones.

Laccaic acid is one of the natural anthraquinones and a refined powder from lac insect. The dye is generally present in the form of its sodium / potassium salt which is completely soluble in cold water while the pure dye is sparingly soluble in boiling water. The dye is also soluble in methyl alcohol, acetone, acetic acid and formic acid but insoluble in ether,



chloroform, ligroin and benzene. It dissolves slowly in ethyl alcohol. The aqueous solution is orange red where as alkaline solution is reddish violet. It also dissolves in concentrated sulphuric acid with a beautiful carmine red colour.

Dyeing material

- 100% NZ wool yarn (30 count)

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